DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake:	NORTH RIVER POND	Lake Area (ha):	32.42
Town:	NOTTINGHAM	Maximum depth (m):	5.8
County:	Rockingham	Mean depth (m):	3.1
River Basin:	Coastal	Volume (m^3):	993500
Latitude:	43°11'45" N	Relative depth:	0.9
Longitude:	71°07'40" W	Shore configuration:	1.59
Elevation (ft):	452	Areal water load (m/yr):	5.91
Shore length (m):	3200	Flushing rate (yr^{-1}):	1.90
Watershed area (ha):	377.0	P retention coeff.:	0.63
% watershed ponded:	0.0	Lake type:	natural w/dam

BIOLOGICAL:		13 January 1992	27 August 1991
DOM. PHYTOPLANKTON (% TOTAL)	#1	ASTERIONELLA 90%	DINOBRYON 35%
	#2		ASTERIONELLA 30%
	#3		ANACYSTIS 10%
PHYTOPLANKTON ABUNDANCE (cells/mL)			1065
CHLOROPHYLL-A (µg/L)			6.61
DOM. ZOOPLANKTON (% TOTAL)	#1	KERATELLA 79%	POLYARTHRA 35%
	#2		KERATELLA 16%
	#3		
ROTIFERS/LITER		22	131
MICROCRUSTACEA/LITER		4	26
ZOOPLANKTON ABUNDANCE (#/L)		28	161
VASCULAR PLANT ABUNDANCE			Scattered
SECCHI DISK TRANSPARENCY (m)			
BOTTOM DISSOLVED OXYGEN (mg/L)		10.8	0.0
BACTERIA (fecal col., #/100 ml)	#1		< 10
	#2		< 10
	#3		

SUMMER THERMAL STRATIFICATION:

weakly stratified

Depth of thermocline (m): None
Hypolimnion volume (m^3) : None
Anoxic volume (m^3) : 1500

CHEMICAL:

Lake: NORTH RIVER POND
Town: NOTTINGHAM

	13 January 1992		27 August 1991		
DEPTH (m)	2.0	4.0	2.0	4.5	5.5
pH (units)	6.5	6.5	6.8	6.5	6.2
A.N.C. (Alkalinity)	6.3	6.9	4.5	5.9	6.1
NITRATE NITROGEN	0.03	0.04	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN					
TOTAL PHOSPHORUS	0.009	0.009	0.021	0.021	0.039
CONDUCTIVITY (µmhos/cm)	69.0	72.6	73.6	72.8	69.5
APPARENT COLOR (cpu)	26	28	27	33	60
MAGNESIUM			0.65		
CALCIUM			2.1		
SODIUM			9.5		
POTASSIUM			1.00		
CHLORIDE	13	14	15		12
SULFATE	4	4	2		2
TN : TP					
CALCITE SATURATION INDEX			3.5		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1991

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	2	1	1	4	Oligo.

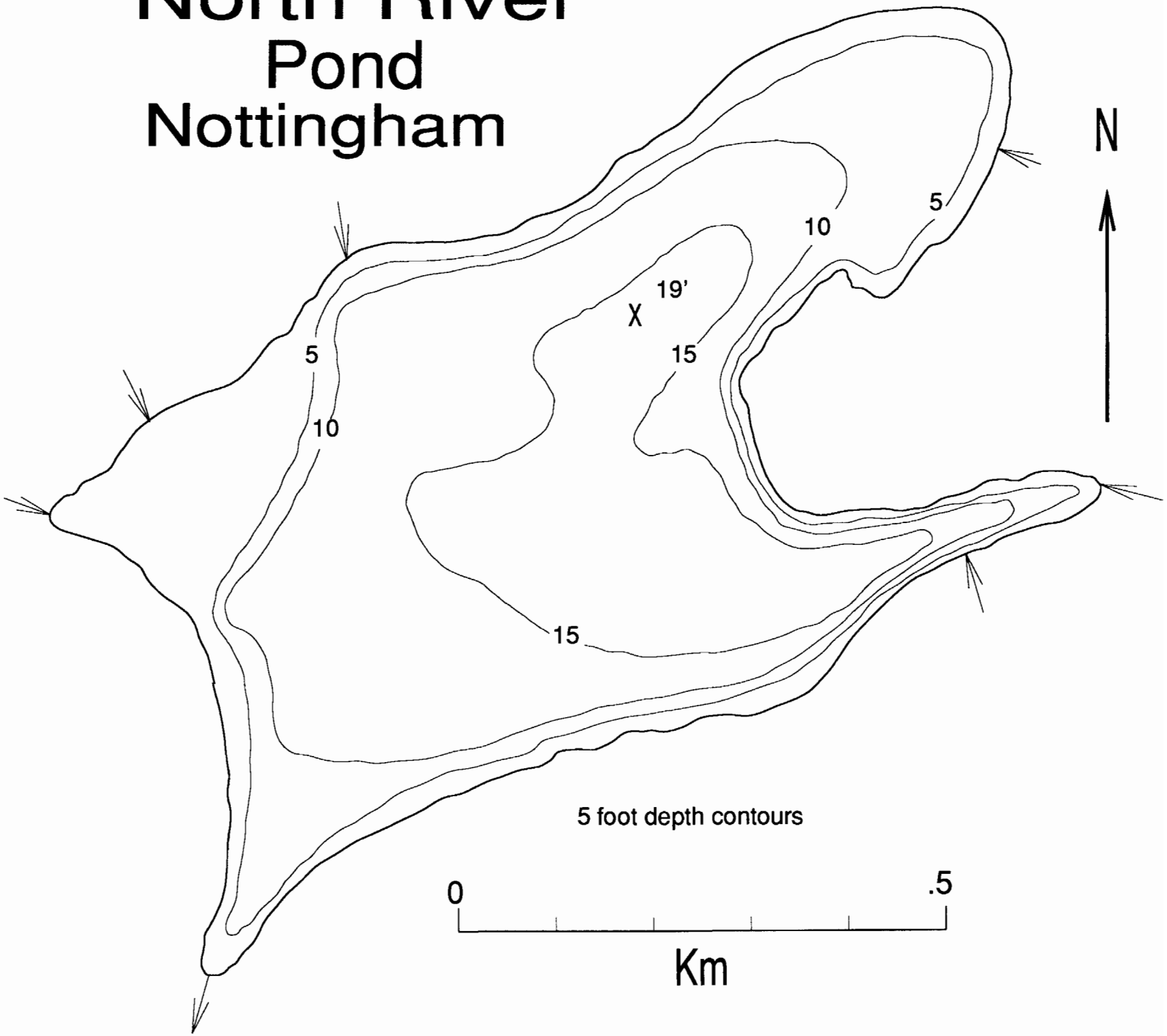
COMMENTS:

1. This pond was previously surveyed and classified in 1977. There was essentially no change in water quality. The trophic classification changed from mesotrophic to oligotrophic, but this was due to a procedural change.

2. No Secchi disk transparency reading was recorded in 1991. Based on the chlorophyll readings and the 1977 transparency value, the Secchi disk reading was estimated to be between 3 and 5 meters for classification purposes.

3. Chroomonas (40%) was the dominant genus of wholewater plankton and the Cryptomonads (60%) was the dominant class.

North River Pond Nottingham



FIELD DATA SHEET

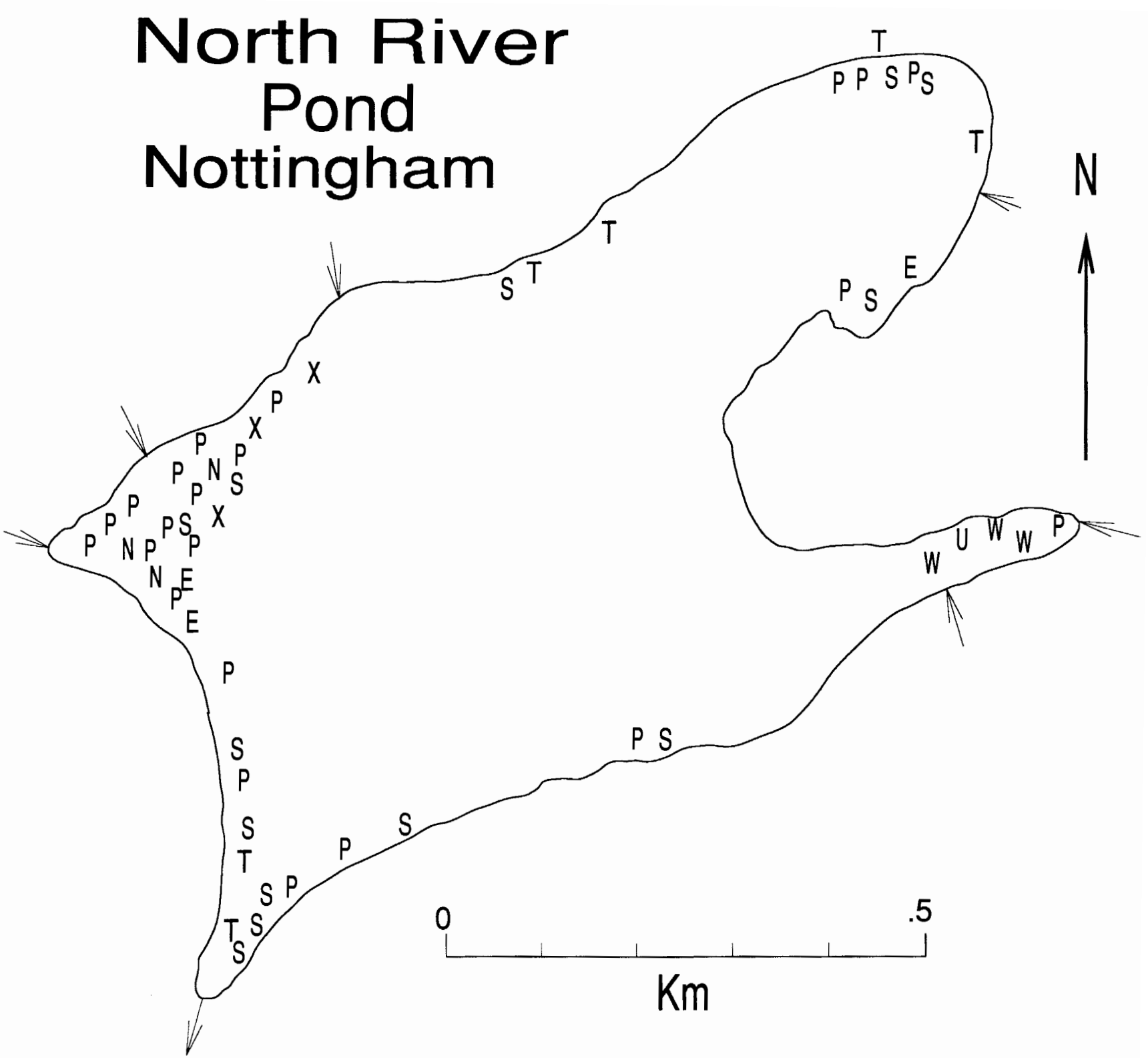
LAKE: NORTH RIVER POND TOWN: NOTTINGHAM
DATE: 08/27/91 WEATHER: SUNNY & HOT

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	23.0	8.8	101 %
	1.0	22.5	8.8	99 %
	2.0	22.5	8.8	99 %
	3.0	22.5	8.5	96 %
	4.0	21.5	5.2	58 %
	5.0	20.0	1.8	19 %
	5.5	17.0	0.0	0 %

COMMENTS:

BOTTOM DEPTH (m): 5.8
TIME: 1145

*Dissolved oxygen values are in mg/L


North River
Pond
Nottingham
N
0
.5
Km

AQUATIC PLANT SURVEY

LAKE: NORTH RIVER POND TOWN: NOTTINGHAM DATE: 08/27/91

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
P	Pontederia cordata	Pickerelweed	Scattered
T	Typha	Cattail	Sparse
S	Sparganium	Bur reed	Sparse
X		Sterile thread-like leaf	Sparse
N	Nymphaea	White water lily	Sparse
E	Eriocaulon septangulare	Pipewort	Sparse
W	Potamogeton	Pondweed	Sparse
U	Utricularia	Bladderwort	Sparse

OVERALL ABUNDANCE: Scattered

GENERAL OBSERVATIONS:

1. Plants were relatively abundant in a couple coves, but were scattered overall.